
FAST NEUTRON-INDUCED FISSION YIELDS OF ^{232}Th MEASURED USING AN ISOL SYSTEM

Per-Ivar Johansson

The Studsvik Neutron Research Laboratory, Uppsala University, Sweden

We have measured the cumulative yields of fast neutron induced fission of ^{232}Th , at the ISOL-facility at the Studsvik R2-0 reactor, with the technique developed by Rudstam et al. The fission products measured cover nuclides, as well as their isomers, for the light masses Zn to Sr ($Z=30$ to 38), and heavy masses from Cd to Ba ($Z=48$ to 56) respectively, with half-lives from $< \text{one second}$ to hours. The yields are corrected for the delay of the fission products in the thorium target and for the ion separator efficiency, and are normalized to published experimental data or yield values calculated using Wahl's semiempirical model, to obtain absolute yields. The delay parameters are determined from yields of ^{235}U measured in a separate experiment with the same ion source. Few previous experimental fission yield data for ^{232}Th have existed. Our results add more than 200 new yield data to the nuclear fission data base, which can be used for better understanding and theoretical modeling of fission process.